Modified lateral approach in dysplastic hip arthroplasty

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Secondary arthrosis due to hip dysplasia

- Earlier age (third decade)
- Anatomical irregularity
  - Femur
  - Acetabulum
- Challenge for operative treatment
  \textit{(total hip arthroplasty)}
Femoral reconstruction

HHS ?
A modification of the Bauer*, Hardinge** and Stracathro*** approaches, was developed at our Department for patients with high hip dysplasia.
Patients

Crowe 3 and 4
NEW modified direct lateral approach

Crowe 1 and 2
Standard direct lateral approach

Groups
- no difference: Age, Height, Weight, BMI, Lower back pain, Use of orthopedic devices, Trendelenburg, Childhood surgeries
- difference: Hip pain (worse in control group), Leg length difference, TEST-5cm, CONTROL-1,3cm

Evaluation
PreOP
6 months PostOP
Results

• ROM
  – Significantly increased in all directions postoperatively
  – No difference except
    • flexion and internal rotation-no clinical relevance

• STRENGTH
  – Significantly increased in all directions postoperatively
  – No difference except
    • weaker flexion and internal rotation-in test group;
    • weaker extension, abduction, and external rotation weaker in control group!

• BALANCE BOARD TESTING
  – Significantly improved postop in frontal and sagital plane
  – BUT only with eyes opened
Results -

*(general functional assessment scores)*

- **SES** *(Self-efficacy scale for falls)*
  - Significantly better postop., no difference between TEST and CONTROL

- **COOP WONCA** *(COOP = The Dartmouth Primary Care Cooperative Information Project, WONCA = World Organization of National Colleges, Academies, and Academic Associations of General Practices/Family Physicians)*
  - Significantly better postop., no difference between TEST and CONTROL

- **SF36M** *(Short form 36 mental)*
  - Significantly better postop., no difference between TEST and CONTROL

- **SF36F** *(Short form 36 physical)*
  - Significantly better postop., no difference between TEST and CONTROL
Results -
(functional assessment scores)

- **Self tested**
  - **WOMAC** *(The Western Ontario and McMaster University Osteoarthritis Index)*
    - Significantly *better* postop., *no difference* between TEST and CONTROL
  - **OXFORD** *(Oxford hip score)*
    - Significantly *better* postop., *no difference* between TEST and CONTROL

- **Tested by examiner**
  - **HHS** *(Haris Hip Score)*
    - Significantly *better* postop., *no difference* between different Crowe types
  - **MDAHS** *(Merle d'Aubigne Hip Score)*
    - Significantly *better* postop., *no difference* between TEST and CONTROL
Results – center of rotation
(design between achieved and ideal)

- TEST GROUP
  - x=6 mm
  - y=10.2 mm

- CONTROL
  - x=3.1 mm
  - y=4.9 mm
Standard + New technique - results
(Harris Hip Score*)